# Title of Lab:

# Digital Systems Design Lab /

# Logic Design Lab

Both labs can be shared in the same location with the same PCs assuming different timings for each lab. Each lab is given to a different level of students.
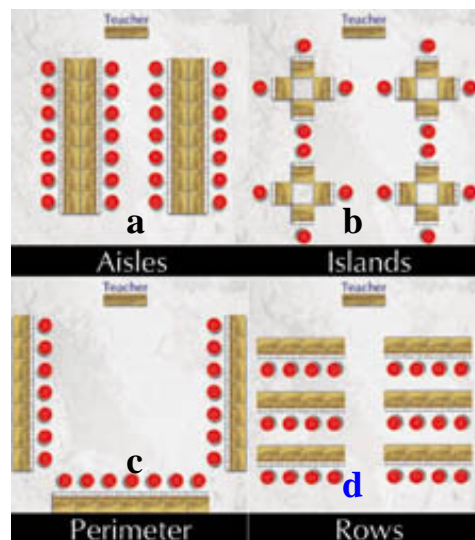Logic Design Lab is for second year students.
The Digital System Design Lab is to be given for third or fourth year students.
It is assumed that some of the equipments are to be stored and arranged by the Lab Manager or Engineer upon request of the teaching Lab instructor.

## Area/Space Requirements
- Area: ~**64 m$^2$**
- Capacity
  - (# Students)    **18 per each Lab in different timings**
  - Lectern        **1**

## Seating Requirement: **d**



## Electrical and Internet Cabling System
- Raised floor          **No**
- Static-free floor      **Yes**
- Cable trough          **No**
- Side wall conduit      **No**

## Furniture
- Tables
  - Area (/ student):        **1 m$^2$**

- LAN Connectors **No**
- USB Connectors **Yes**
- Headset Connectors **No**
- Other Connectors **N/A**
- Electrical Outlet **No**
- Chairs **Swivel**
- Closets **Yes (Manuals, Storage, Stationary, etc)**

## Equipment

- Audio/Visual
  - Ceiling-mounted projector **Yes**
  - Video Cassette/DVD Player **No**
  - Pull-down screen **Yes**
  - White Board **Yes**
  - Large-screen monitors **No**

- PC
  - CPU (footprint) **Yes**
  - Keyboard and Mouse **Yes**
  - Monitor **Yes**

- Peripherals
  - Scanner **No**
  - Printer **No**
  - Digital Camera **No**
  - Input Microphone **No**

- Software

  **Software: Xilinx Version 2.li**
  **MASM (Macro Assembler, Version 6.11),**
  **CODE View,**
  **MS Office**
  **Various Programming Language Development S/W**
  **Visual Studio .Net, Fortran/C/C++/…. Compilers**

- Switches **Yes (1)**
- Networking **Networked**
  - Routers **No**

- Security and Safety
  - Surveillance Camera System **Yes (high level students can work after hours especially for the digital system design lab)**
  - Fire Extinguisher **Yes**
  - Sprinkler System **No**
  - Smoke Detectors **Yes**
- Other
  - Nearby Systems Room **No**
  - In-house technician **No**

o   Additional Hardware        **Yes  for the** Digital Systems Design Lab

18 Students are expected to do the lab work in groups of two.

| No. Of Pieces | Equipment |
|---|---|
| **9** | **PC-Interface Kit** |
| **1** | **Frequency Counter** |
| **6** | **Oscilloscope** |
| **9** | **KEPCO Power Supply** |
| **1** | **Soldering Station, Voltage Regulator, Function Generator** |
| **6** | **Logic Analyzer** |

o   Additional Hardware        **Yes  for the** Logic Design Lab

| No. Of Pieces | Equipment |
|---|---|
| **18** | **Spartan Family FPGA (Series S10PC84)** |
| **18** | **PC with the FPGA board software installed** |
| **1** | **IC tester** |
| **4** | **Wires and wire stripper** |
| **5** | **Oscilloscope** |
| **18** | **Digital Trainer Board** |